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Amendments to the Specification:

Page 8, paragraph 2, through to page 9:

-- Because the slit collimators collimate gamma photons in only one dimension, the stack of bar detectors collects a set of planar integrals at each rotational position, as opposed to the line integrals that are collected by the conventional PMT arrays of the conventional Anger gamma camera. The bar detector stack 100 is positioned at a fixed gantry angle, and collects a sufficient number of events at its initial azimuthal position. The bar detector stack 100 then is rotated azimuthally about its central normal axis 203 as shown in Fig. 2. The bar detectors may be rotated through a predetermined total rotation angle of ~~180 degrees in increments, such as 3-5 degree rotational increments.~~ The bar detectors then collect additional sets of planar events at each of the rotation angle increments. As shown in Fig. 3, the process is repeated at a number of different gantry angles 401, 403, 405, and 407 with respect to an imaging object 402 such as a patient undergoing medical imaging. The resulting sets of planar integrals can be reconstructed to form a full tomographic image of the object 402.--;

Page 10, last paragraph through to page 11:

— Although the preferred embodiment of the invention includes photodetectors at each end of each scintillation bar, an alternative embodiment of the rotating bar detector would collect light at only one end of the bar, with an optimal surface treatment at the other end of the bar, such as a reflector, a diffuse surface treatment, or other surface treatment that optimizes light collection by the photodetector. This would reduce electronics complexity and cost to a bare minimum, but with the tradeoff of degraded energy resolution as less light would be collected for each event, as no energy correction based on event spatial location would be possible. The invention having been described, it will be apparent to those skilled in the art that the same may be varied in many ways without departing from the spirit and scope of the invention. Any and all such modifications are intended to be included within the scope of the following claims. For example, while the invention has been described with respect to a nuclear medicine application, the novel imaging camera may have applications in other areas,

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such as scanning very large volumes with minimal crystal material — e.g., scanning ~~cargo containers~~ for radioactive material or for explosives using the (n, γ) reaction which causes nitrogen rich material to emit high energy gammas.--.

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